

AGILENT TECHNOLOGIES, INC. DOCKET NUMBER 10030984-1

1. Please delete the entire last paragraph (lines 21-24) on page 9. The paragraph to be deleted begins with "However, when the designated position 17..." and ends with "...designated position 17 in a manner".

2. Please replace the paragraph (lines 7-22) on page 6 with the following paragraph:

In step 22d, a corresponding jitter value is assigned to each of the samples  $\{S_{U1} \dots S_{UX}\}$  in the set  $S_U$  of periodically acquired samples in step 22c, resulting in a set  $J_U$  of jitter values. This assignment includes determining for the samples  $\{S_{U1} \dots S_{UX}\}$  in the set  $S_U$ , the deviations  $\{D_{U1} \dots D_{UX}\}$  of deviations  $\{\Delta_{U1} \dots \Delta_{UX}\}$  of the amplitudes  $\{A_{U1} \dots A_{UX}\}$  of each of the samples  $\{S_{U1} \dots S_{UX}\}$  from the nominal amplitude  $A_{UNOM}$ . The mapping of amplitudes  $\{A_1 \dots A_N\}$  and times  $\{t_1 \dots t_N\}$  established in step 22b is then used to convert the determined amplitude deviations  $\{D_{U1} \dots D_{UX}\}$  amplitude deviations  $\{\Delta_{U1} \dots \Delta_{UX}\}$  to corresponding timing deviations. The resulting timing deviations comprise the set  $J_U$  of jitter values. When a linear mapping is established in step 22b, the set  $J_U$  of jitter values is obtained by dividing the amplitude deviations  $\{D_{U1} \dots D_{UX}\}$  amplitude deviations  $\{\Delta_{U1} \dots \Delta_{UX}\}$  by the slope of the linear function relating amplitudes  $\{A_1 \dots A_N\}$  and times  $\{t_1 \dots t_N\}$ . However, when a polynomial mapping is established in step 22b, the set  $J_U$  of jitter values is obtained by evaluating the polynomial for each of the amplitude deviations  $\{D_{U1} \dots D_{UX}\}$  amplitude deviations  $\{\Delta_{U1} \dots \Delta_{UX}\}$  from the nominal amplitude  $A_{UNOM}$ . When the mapping in step 22b is a look-up table, the set  $J_U$  of jitter values is assigned according to the look-up table, typically using interpolation to accommodate deviations from the nominal amplitude  $A_{UNOM}$  that fall between values in the look-up table.

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**3. Please replace the paragraph from page 8, line 18 to page 9, line 2 with the following paragraph:**

In step 26 of the method 20, a jitter value  $Jitter(k)$  is assigned to each of the samples  $\{S_{R1} \dots S_{RK}\}$  in the set  $S_r$ , where  $k$  is an integer such that  $0 \leq k \leq K$ , to provide the corresponding set  $J_r$  of jitter values. This assignment includes determining for the samples  $\{S_{R1} \dots S_{RK}\}$  in the set  $S_r$ , deviations  $\{D_{R1} \dots D_{RK}\}$  deviations  $\{\Delta_{R1} \dots \Delta_{RK}\}$  of the amplitudes  $\{A_{R1} \dots A_{RK}\}$  of the samples from the nominal amplitude  $A_{RNOM}$  (shown in Figure 4F) and includes converting the determined amplitude deviations  $\{D_{R1} \dots D_{RK}\}$  deviations  $\{\Delta_{R1} \dots \Delta_{RK}\}$  to corresponding timing deviations. The resulting timing deviations comprise the set  $J_r$  of jitter values  $Jitter(k)$ .

**4. Please replace the paragraph between line 3 and line 20 on page 9 with the following paragraph:**

This assignment is based on the relationship between amplitude and time on the amplitude transition of the repetitive signal  $S_1$  upon which the designated position 17 is positioned, and is determined analogously to the assignment of jitter values in step 22d to the periodically timed samples acquired in step 22c, with the exception that here, the samples  $\{S_{R1} \dots S_{RK}\}$  are acquired at the non-uniform time intervals  $\tau_r$  determined by equation 1. When the designated position 17 coincides with the amplitude transition 13 on which the mapping of amplitudes  $\{A_1 \dots A_N\}$  and times  $\{t_1 \dots t_N\}$  of step 22b is established, this mapping can be used in assigning the jitter values to the set  $S_r$  of samples  $\{S_{R1} \dots S_{RK}\}$ . For example, when a linear mapping is established in step 22b, the set  $J_r$  of jitter values is obtained by dividing the amplitude deviations  $\{D_{R1} \dots D_{RK}\}$  deviations  $\{\Delta_{R1} \dots \Delta_{RK}\}$  by the slope of the linear function relating amplitudes  $\{A_1 \dots A_N\}$  and times  $\{t_1 \dots t_N\}$  on the characterized amplitude transition 13. When a polynomial mapping is established in step 22b, the set  $J_r$  of jitter values is obtained by

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evaluating the polynomial for each of the deviations  $\{D_{R1}...D_{RK}\}$  deviations  $\{\Delta_{R1}...\Delta_{RK}\}$  of the amplitudes  $\{A_{R1}...A_{RK}\}$  from the nominal amplitude  $A_{RNOM}$ . When the mapping in step 22b is a look-up table, the set  $J_r$  of jitter values is assigned according to the look-up table, typically using interpolation to accommodate amplitude deviations  $\{D_{R1}...D_{RK}\}$  deviations  $\{\Delta_{R1}...\Delta_{RK}\}$  from the nominal amplitude  $A_{RNOM}$  that fall between values in the look-up table as needed.